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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 856063.547D1
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____  Signature _____  Typed or printed name _____	Application Number  10/615,084	Filed  July 7, 2003
	First Name Inventor Salvatore Lombardo	
	Art Unit 2826	Examiner Ahmed N. Sefer
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the <input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96.) <input checked="" type="checkbox"/> attorney or agent of record. Registration No. <u>33,514</u> <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <div style="text-align: right;"> _____ Signature  _____ Robert Iannucci _____ Typed or Printed Name  _____ (206) 622-4900 _____ Telephone Number  _____ September 19, 2005 _____ Date</div>		
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.		
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.		

This collection of information is required by 37 CFR 1.32. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**STATEMENT IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW  
EXPEDITED PROCEDURE - EXAMINING GROUP 2820**

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Salvatore Lombardo et al.  
Application No. : 10/615,084  
Filed : July 7, 2003  
For : GERMANIUM IMPLANTED HBT BIPOLAR TRANSISTOR

Examiner : Ahmed N. Sefer  
Art Unit : 2826  
Docket No. : 856063.547D1  
Date : September 19, 2005

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

STATEMENT

Commissioner for Patents:

In support of the pre-appeal brief request for review filed herewith, the Applicants hereby submit the following **Remarks** which begin on page 2 of this paper.

REMARKS

Claims 1-18 are pending.

Claims 1-7 were rejected under 35 U.S.C. 102(b) as being anticipated by admitted prior art in Figures 1-8 ("APA").

The APA does not disclose the invention recited in claim 1. Claim 1 recites, *inter alia*, "A contact region ... comprised of the first semiconductor material, the contact region directly contacting the heterostructure alloy ...." The APA does not teach or suggest a contact region **directly contacting** the heterostructure. Figure 8 shows a germanium layer 90 that separates the contact region 7 from the emitter 4. It should be emphasized that Figure 8 is an enlarged detail view of the emitter 4 and base 3 regions shown in Figures 1 and 3F (see column 10, lines 14-15 of substitute specification). As a result, the contact layer 7 is not in direct contact with the heterostructure emitter region 4. Therefore, claim 1 is not anticipated by the APA and is allowable.

The Examiner's response asserts that there are no structural differences between the claimed invention and the APA and that the only differences are process differences. In particular, the Examiner continues to point to Figure 1 as showing direct contact between the emitter contact 9 and the emitter region 4. However, as pointed out above, the specification clearly indicates that Figure 8 is a close-up view of Figure 1 and Figure 8 shows a pure germanium layer 90 intervening between the emitter contact 9 and the emitter region 4. The germanium layer is not a heterostructure alloy, and thus, there is no direct contact between the emitter contact 9 and a heterostructure alloy region. The lack of direct contact between the contact 9 and region 4 in the device of Figures 1 and 8 is certainly a structural difference rather than a process difference.

The Examiner appears to have been confused by a mistake made by the applicants in formalizing Figures 9E, 9F of the present application. The applicants attempted to correct that mistake with the filing of an amendment after final on August 18, 2005, but the Examiner refused to enter the amendment because he asserted that the remarks were not persuasive. In particular, Figures 9E and 9F were amended to show that the emitter contact 9 directly contacts the emitter region 4, which is made of a heterostructure alloy. Such a change returns Figures 9E

and 9F to their original form as presented with parent application 09/724,563 filed on November 27, 2000, grandparent application 09/087,398 filed on May 29, 1998, and the priority EP application no. 97830259 filed on May 30, 1997. In addition, the change is consistent with the specification, which states that the dielectric layer 12' is etched in the window 10 and the emitter region 4 is overlaid with the emitter contact 9 (for example, page 13, lines 1-13 of substitute specification. In any event, regardless of whether Figures 9E, 9F are amended, Figures 1 and 8 still do not disclose the claimed invention.

Claims 2-7 are allowable because they depend from claim 1 which is allowable for the reasons presented above. In addition, claim 2 recites that a first dielectric layer directly contacts the heterostructure alloy. Figure 8 shows that the prior art structure includes the germanium layer 90 intervening between the first dielectric layer 12 and the heterostructure alloy of the base 3. As a result, the APA does not disclose a dielectric layer that directly contacts the heterostructure alloy. Therefore, claim 2 is allowable apart from its dependence on claim 1.

The Examiner has rejected claims 8-13 under 35 U.S.C. 102(b) as being anticipated by the APA.

The APA does not disclose the invention recited in claim 8. Claim 8 recites a transistor that includes "a first dielectric layer positioned on, and directly contacting, the heterostructure alloy region." As discussed above with respect to claim 2, Figure 8 shows that in the APA device the dielectric layer 12 does not directly contact the heterostructure alloy base 3. Instead, the germanium layer 90 prevents such direct contact. Therefore, claim 8, is not anticipated by the APA.

Claims 9-13 are allowable because they depend from claim 8, which is allowable for the reasons presented above.

The Examiner rejected claims 14-18 under U.S.C. 102(b) as being anticipated by APA.

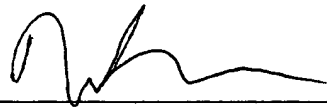
The APA does not disclose the invention recited in claim 14. Claim 14 is directed to a transistor formed by a process that includes "forming by chemical vapor deposition a first dielectric layer of silicon dioxide on the substrate ...." As explained on pages 12-13 of the application, forming a first dielectric layer by chemical vapor deposition of silicon dioxide on a

substrate in which a silicon/germanium alloy is formed, results in a product in which the first dielectric layer contacts the silicon/germanium alloy. As discussed above, the APA does not disclose such a product. Instead, the APA thermally grows the dielectric layer 12, which causes the germanium layer 90 to be formed between the dielectric layer 12 and the heterostructure alloy of the base 3. As such, the product formed by the APA is not the same product that is recited in claim 14. Accordingly, claim 14 is not anticipated by the APA.

Claims 15-18 are allowable because they depend from claim 14 which is allowable for the reasons presented above.

Respectfully submitted,

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